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PATENT SPECIFICATION

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(72) Inventor GEORGE CHRISTOPHER PRATT

(54) PLAIN BEARING MATERIAL

(71) We, THE GLACIER METAL COMPANY LIMITED, a Company registered under the Laws of Great Britain, of 368 Ealing Road, Alperton, Wembley, Middlesex, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a plain bearing material and is a modification of the invention subject of British Patent Specification No. 926,718.

Claim 1 of that Specification reads as follows:—

> A plain bearing material consisting of or including a mixture comprising a single synthetic plastic material with filler material, the filler material comprising copper or an oxide or alloy thereof in a proportion constituting between 1% and 50% by volume of the whole material and lead and/or an oxide thereof in a proportion constituting between 5% to 40% by volume of the whole material, and the total content of the filler material not exceeding 60% of the whole material.

According to the present invention a bearing material has a bearing surface layer which consists of (1) a synthetic plastics material being, for example, polytetrafluoroethylene (herein after called P.T.F.E.), (2) copper or an oxide or an alloy of copper, and (3) bismuth or cadmium or an oxide of cadmium or bismuth.

Specification No. 926,718 contemplates lead or lead oxide but this has been found in some circumstances, for example when being sintered to cause an explosion due to inter-action between the P.T.F.E. and the lead oxide. Cadmium or cadmium oxide has now been found to give a good bearing material without being so likely to cause an explosion during sintering.

There might be for example between 10% and 20% by volume of the cadmium or bismuth or oxide of cadmium or bismuth. There might be for example between 1% and 10% of the copper or copper oxide or alloy and in general the total percentage volume of the fillers is likely to be up to 40% of the total volume of the plastics plus fillers.

The bearing material may of course be on a steel or other backing.

The following are examples of bearing materials in accordance with the invention.

EXAMPLE I

	by volume
Bismuth	30%
Copper Oxide	10%
P.T.F.E.	60%

EXAMPLE II

	by volume
Cadmium Oxide	25%
Bronze (89/11 Copper/Tin) ...	5%
P.T.F.E.	70%

EXAMPLE III

	by volume
Cadmium	15%
Copper	15%
P.T.F.E.	70%

WHAT WE CLAIM IS:—

1. A plain bearing material of which the bearing surface layer consist of (1) a synthetic plastics material, (2) copper or an oxide or an alloy of copper, and (3) bismuth or cadmium or an oxide of cadmium or bismuth.

2. A material as claimed in Claim 1 in which the plastics material is P.T.F.E.

3. A material as claimed in Claim 1 or Claim 2 in which the cadmium or bismuth of cadmium or bismuth is present in the proportion of 10%—20% by volume of the total bearing surface material.

4. A material as claimed in any of the preceding claims in which there is between 1% and 10% by volume of the copper, copper oxide or alloy at the bearing surface.

5. A material as claimed in any of the preceding claims in which the total volume of the metals or oxides or alloys is not more than 40% of the total volume of the bearing material.

6. A plain bearing material according to any of the examples herein.

7. A bearing material as claimed in any of the preceding claims on a backing stronger than the bearing material.

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